

EXHIBIT A

Exhibit A

A White Paper on the Meeting Room

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Introduction

SMART Technologies Inc has created some fantastic software. We attempt to solve problems that nobody has ever addressed before, in a market that has seen very little penetration by high technology companies. And it is precisely because we are so far ahead of everyone else that we need to constantly examine where we are going and challenge our basic assumptions. When you are a mile ahead of the pack it can be difficult to notice that you are no longer on the racetrack.

The imminent release of Meeting Pro 1.0 obligates us to verify that we are heading in the right direction. Most companies would automatically follow the release of a product like Meeting Pro 1.0 with the release of Meeting Pro 2.0, a next generation product loaded with extra features and power. I think that this would be a huge mistake. I have been in numerous meetings where we have used our software. I have heard the rave reviews and seen the excited dealers. I think that we are starting to go in the wrong direction.

If we really step back and look at this objectively, we are forced to admit that our attempts at Meeting Room software have met with limited success. Instead of making meetings more productive and useful, we have often made meetings less so. Every feature we add makes it less likely that anyone will use our tools. I can already predict with virtual certainty that if I walk into a high technology meeting room, a good portion of the meeting will be spent fighting with the technology that is supposed to be help make the meeting more effective. Furthermore, the complexity of the technology interferes with our ability to concentrate on the task at hand, which makes us less effective in the meeting instead of more so.

Complexity Gone Haywire

Complexity grows at a remarkable rate. Items that are individually very simple suddenly become incredibly complex when they are combined. And it is this complexity which is killing us in the Meeting Room.

Let us look at your standard high technology meeting room. It contains an astonishing array tools:

Wireless PC - Runs Windows 95, the easiest to use operating system ever made. You can easily get at your data on the network as soon as you log in, set all the correct drive mappings, and navigate through all of the directories. Hopefully the version of PowerPoint that you created your demo with is the same as the one on this machine.

Video Conferencing Hardware - Anyone who has sat through the first 30 minutes of a videoconference knows that these things rarely work the way they are advertised.

LCD projector - These things connect seamlessly to your notebook computer and display whatever you have on your monitor. Provided, of course, that you have configured your Notebook BIOS correctly, are running the right number of colors and display resolution, and have used the correct settings from the hidden configuration screens which control the projector. The projector of course is configured from the remote control, which was sitting right next to the telephone last week.

Telephone - How many people in the office could tell you how to do a 3-way conference call?

Our message to the market is that this meeting room is still not high tech enough. To this meeting room, we want to add one more tool.

SMART Board - All you need to do to use it effectively is learn a completely new software package that you have never seen before while standing in front of 15 of your coworkers.

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The problem with all of these products is that they increase productivity only if you are an expert user, but can harm productivity if you are not. A LCD projector is clearly superior to an overhead projector and foils, except in the cases where you can't figure out how to get it to work with your laptop and you end up having to give your entire presentation without any slides.

Solving Too Small a Part of the Problem

Assume for a moment that our typical meeting room user has an IQ of 180 and is able to simultaneously manage all of the technology in the meeting room while still being able to give a coherent presentation. It turns out that we still have a problem, which is that our electronic tools are addressed at a very small subset of the actual meeting problem.

Activity	Frequency	Supported by Tools
Discuss a topic	Almost Always	No
Ask Questions	Almost Always	No
Answer Questions	Almost Always	No
Present Information	Often	PowerPoint
Assign Action Items	Sometimes	Meeting Pro (*)
Follow Agendas	Sometimes	Meeting Pro (*)
Use a whiteboard	Sometimes	Meeting Pro
Save written notes	Sometimes	Meeting Pro
Conference with Remote users	Rarely	NetMeeting/Phone System

* In certain circumstances.

What this table tells us is that the activities which occur most often in meetings are those which are not supported by current tools. This is simply common sense. If there was nothing to the meeting beyond our PowerPoint slides and electronic gadgets, we could just attach the PowerPoint file to an email and skip the whole ritual of getting together.

Even where there are electronic tools, they can be difficult to learn and limited in their scope. For example, Meeting Pro tracks action items, but only if they are generated in Meeting Pro. It is difficult to simply assign an action item in the middle of a discussion over a PowerPoint slide. Similarly, Meeting Pro helps you with an agenda but the agenda is only effective if you spend the major part of your meeting inside Meeting Pro. If you spend large parts of your agenda in other software, the Meeting Pro agenda loses its usefulness. For all our talk about being open to the way people behave, our starting assumption is that they will go from their standard meeting behavior to a behavior based around writing notes on a SMART Board.

The problem is that people aren't willing to change. Nor should they, since we have no evidence that writing things on a SMART Board is any more effective than the way they used to run their meetings. People won't change unless they have a compelling reason to. The result is that our tool's ability to track normal meeting activities is limited.

Imagine a typical meeting which consists of a spoken introduction, a PowerPoint slide show, in which some questions are asked, a brief discussion of new ideas, and then the assignment of some action items. The corporate culture in this case probably requires a meeting minute taker who is responsible for tracking action items and distributing the minutes of the meeting afterwards. Assuming we can convince this minute taker that learning an entirely new software package is worth the effort, our coverage of this typical meeting would be limited. It would include the agenda, a couple of slides with writing over them, and maybe a couple of action items. We would have lost all of the most important information that was generated in the meeting. Most of the questions were probably answered verbally. Answers that were written on the SMART Board are unlikely to contain any hint as to what the original question was. The PowerPoint slide show is at best available as a separate document. All of the verbal discussion is completely missing.

Worst of all, our software assumes that the person using the SMART Board is the one that will be taking the minutes and assigning the action items. Wrong! They already have a job. They're trying to give a presentation and have to deal with the stress of being in front of a group of people

Our software requires the wrong person to record information that is largely irrelevant. The information we are tracking and generating is not all that useful outside of the meeting. Written pages are simply not rich enough to give us any more than an extremely meager snapshot of what actually occurred. Think of how many meetings you have been in where you really wanted a copy of the Meeting Pro or SMART Notebook file afterwards. If you had missed the meeting, how much would a Meeting Pro file tell you about what happened? Have you ever gone back to a Meeting Pro file a month later to find out what you talked about? A decent scribe distributing minutes would probably have been a lot more effective.

How do we solve these problems?

Unfortunately, there is no simple solution to a lot of these difficulties. Certainly, Meeting Pro 2.0 with even more features would be a disaster. This is not to say that there is no solution, however. It merely means that the solution is a radical progression from where we are now.

It is my belief that our users will fall into two categories. The most difficult category to deal with is those who expect that by introducing new technology they are magically going to realize more efficient meetings. These are the same people that think that they can buy PCs for the whole company without getting anyone to administer them. I believe that these people are ill served by technology. Any company not willing to make the investment in training people to use the technology properly is wasting their time. There is no Holy Grail that will automatically make things more efficient without requiring effort on anyone's part

The second category of company is the one I think we should be aiming for. These companies have a deep commitment to saving money on their meetings, and they are willing to invest some effort to make it happen. Our job is to minimize this effort. I believe that with some work, we can provide these companies with an outstanding set of tools which will make their meetings far more effective than they are today.

Our strategy should be based on the following principals:

Better Training

The first thing is that we must realize is that even if we solved all of the ease of use issues and had software which solved every problem of the meeting room, we would still have a significant hurdle to overcome in getting people to use the software. That hurdle is fear. Nobody wants to look like a fool in front of his or her co-workers. Which means that they don't want to use software that they are not experienced with because they are afraid that it will do something unexpected that will make them look bad. This fear is not a usability issue, it is a human nature issue. People want to try new things in a safe, non-threatening environment. The meeting room is not that environment. The only way we can really solve this is through better user training. This can best be accomplished through videos or tutorials that the user can play with at their desktop.

Pre-Configure

One of the biggest keys to managing complexity is to pre-configure things so that a lot of the decisions are taken away from the users. For example, if we install Windows 95 off our network, a lot of the hard questions about networking are answered automatically through scripts created by Rob. We need to provide the same capabilities in the Meeting Room. First of all, we need to provide the ability for a System Administrator or Meeting Room Administrator to pre-configure the software to match the current working

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environment. For example, she might want to set up the PC so that on startup it gives a choice between the most commonly used applications such as PowerPoint or NetMeeting.

It should also be possible for the meeting chair to pre-configure a meeting from his desktop. It is generally acknowledged that advanced preparation is essential to having a smooth meeting. If we can support advance preparation at the desktop then we can solve a lot of the fear issues because nobody will be watching. We can also solve some of the complexity problems because we can use the information we gather in this stage to create a much more effective meeting later on.

Cover the Whole Meeting

A key reason why people want to buy a SMART Board is so they can write things on it and give presentations on it. And as we have shown earlier, far more happens in a meeting than can be tracked on a SMART Board. Currently we make the process of writing on a whiteboard, which takes about 5% of a typical meeting, about 30% more effective. Yikes, we've just increased productivity by 2%. No wonder the thing people do most with the SMART Board is run other software. Learning new software to increase your productivity by 2% is not a good use of your time. We need to extend our reach into the other 95% of the meeting if we want to succeed. If we can do a good job of recording any type of meeting, then we add value even when the meeting is not centered around work being done on a SMART Board.

Ubiquitous Access to Meeting Data through the Web

- 1 The Web provides us with incredible abilities to publish information. Anything that happens in the meeting
- 2 should automatically be put onto the corporate Intranet (in a secure fashion) at an address pre-configured
- 3 by the system administrator. Furthermore, the pages that contain the meeting information should also contain the viewers necessary to play through this information and use it effectively. There should be no need for anyone to install special software. All pre meeting setup and post meeting viewing should be done through ActiveX controls or through some other Web Centric language such as Java.

Separate the Meeting Product from the WhiteBoard Product

Agenda, action items, meeting goals, and decisions are all items that many well-run meetings will have. This is true regardless of whether you are using Meeting Pro or a SMART Board. So why do you have to run Meeting Pro on a SMART Board to get access to these features? We must realize that a decision may be reached in the middle of a PowerPoint slide show, or an action item may be assigned while you are having a verbal discussion. Our Whiteboard software should become the easiest to use tool for writing notes and giving presentations. Our meeting software should be independent of that.

Reach out and Grab the User

As we saw earlier, the SMART Board is just one of many complex elements in a meeting room, and due to fear most users will never treat it as any more than a large display. Marshal told us that 90% of his users simply run PowerPoint, and don't even try to pick up a pen. If we want to get people using the SMART Board, we need to be much more assertive with our interfaces. We need a bright, splashy startup screen as soon as you enter the Meeting Room that invites you to use the SMART Board to make your meeting more effective. We need to go from the complex Windows desktop to an easy to use Kiosk that makes the most common tasks that are performed on a SMART Board incredibly simple. And we need to make the user more effective by doing things for them automatically instead of providing them with features that they must invoke.

For example, if you want to give a PowerPoint show, it should be as simple as inserting a floppy disk and having the system ask which of the PowerPoint show you want to present. Or better yet, you should give it to the meeting server ahead of time using your desktop system and have it ready and waiting when you arrive. You shouldn't even have to hit the slide show button when PowerPoint launches.

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Ideally, the meeting room software should be so intelligent that it would use speakers or motion sensors to detect a meeting starting and then jump in and offer to make it more productive. Recording of a meeting should be automatic, with the only user intervention being a confirmation that it is OK to publish the record to the meeting Web Site at the pre-configured address. Recording should be so intelligent that the software comes up with its own minutes if you didn't provide any, based on figuring out what is going on in the meeting

Meeting Room 2000

Equipment

The Meeting Room 2000 will involve both hardware and software. Many of the components are off the shelf, but some of the integration will require significant work. Here is a basic list of components:

- High Power Rear Screen PC running Windows 98 with Instant-On connected to the local LAN.
- SMART Rear Screen
- SMART Whiteboard
- Motion detectors in key areas.
- TAPI compliant phone system.
- High quality microphones throughout the meeting room.
- Video Camera which faces the meeting room
- Pen based notebook computer with decent keyboard networked to rear screen but placed on conference table
- Video Conferencing Hardware/Software
- Laptop docking cradle for the SMART Board
- SMART Meeting Software
- SMART Meeting Server

The Meeting Room 2000 does not work out of the box. However, all of the bits and pieces to make it work come in the box. A key element to success is that it requires somebody to take the effort to set it up and make sure that it all works correctly. We will provide software and tools which will make this configuration extremely simple to do. Unfortunately, there is no getting around the fact that meeting room equipment varies, phone exchanges have different numbers that you dial to get out of the building, and companies have different cultures and policies.

Instant On/Off

The Meeting Room 2000 never sleeps. You won't even turn the thing off, because the PC inside it will have the latest power management features. The motion detectors in the room will detect when somebody enters the room and bring the system out of its sleep mode into the main welcome screen of the Meeting Software. When everyone has left the room, the PC will go to sleep again so that you can save the projector bulb and conserve electricity. In a perfect world it would even turn off the lights. Because the sensors will be heat triggered (like the alarm system in my house), there is no chance of them turning the lights off and shutting down the PC if everyone falls asleep due to a boring presenter

TAPI Compliant Phone System

Another thing that the Meeting Room 2000 does is address the usability problems associated with some of the equipment that is already in the meeting room. The worst offender is the phone, which is driven by an

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endless series of random codes and features. In the Meeting Room 2000, the phone should be hooked up to the PC and accessed through TAPI

What it means for a user is this: your incredibly hard to use phone is still in the meeting room, and you can still try and figure out the obscure interfaces. But at the same time, the Meeting Room PC has control over it. And the Meeting Room PC does things the right way. Imagine a simple screen that allows you to place a conference call, or put somebody on hold, or transfer somebody, or dial a number from a quick-dial list of the last 20 numbers called. All that you need to do to access this functionality is click on the phone button. And with TAPI we can support advanced features like caller ID, so that when the phone rings, a dialog pops up saying "Marshal Woolard calling".

High Quality Microphones throughout the Meeting Room

The SMART Meeting Room will have the latest in sound technology, so that the PC can clearly hear everything that is being said in the room. It will also have excellent speakers for high fidelity sound. The reason is that the sound system will be used by the TAPI telephone for conference calls, by the video system for video conferencing, by the Meeting Software to record what is happening, and by the voice recognition software to interact with the user.

Limited Voice Recognition

Although voice recognition is currently not ready for the mainstream, that is changing fast. I believe that judicious application of voice technology, combined with improvements in algorithms, will allow us to apply voice in an extremely effective manner. The way that we should apply voice is to allow the user to answer every question asked by the meeting software by saying the right voice command. By making the commands very distinct and only searching for a few options, we avoid the problem of false recognition. We could also use silence detection to force the user to pause before and after the command. That way we wouldn't accidentally pick commands out of a conversation.

Video Camera which faces the Meeting Room

We plan to record what happens in a meeting. But often, a large portion of the meeting is just spent talking. So why not take room snapshots from time to time in these quiet times so that we have something to look at later? With video cameras now costing less than 100 dollars, this one is a no-brainer.

Pen Based Notebook Computer on the Boardroom Table

If you are serious about having an effective meeting, you will want to have somebody assign action items, manage the agenda, and take minutes. But the SMART Board may not be the right place to do this. When Bill Gates is in the middle of a presentation and suddenly says "Steve: your action item is to destroy Netscape", he doesn't want to have to leave PowerPoint, enter some other software, put in the action item, and then go back to what he was doing.

The Remote PC (RPC) on the table will be in constant contact with the one in the main presentation system. Its purpose is to provide a remote control for the meeting. You will be able to type action items on this system and assign them to people. On the meeting system, they will simply flash on the screen for a second so that everyone sees them. (Or of course you could keep it in stealth mode so as not to interrupt the flow). You can also type minutes into the RPC, or you can use it to record decisions, or you can edit the agenda. In short, the scribe at the RPC can now assume many of the control functions that we used to do standing up in front of everyone at the SMART Board. This makes for a much smoother flow to the meeting, because you aren't constantly being bombarded by details while presenting.

The RPC also allows you to work off-line on something. Because it is pen based, it acts like a miniature SMART Board. If somebody has an idea, they can grab the RPC, draw it on the screen, and then post it to the SMART Board for everyone to see. Similarly, if you are about to present, you could use the RPC to browse your data on the network and with the click of a button start it up the presentation on the main

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PC By allowing you to do a lot of your complex operations while sitting at the table, you avoid the fear issue because nobody can see what you are doing. You also avoid the 25% of your brain syndrome because the person presenting doesn't also have the burden of managing the entire meeting.

Video Conferencing Hardware and Software

This stuff is pretty standard in a lot of meeting rooms these days. And it is fiendishly complex to set up and use. Although we can't do much about the hardware and software that runs these things, we can provide a front end that allows a lot of the complexity to be pre-configured. A good example of this is an application that automatically connects NetMeeting to one of a series of pre-configured numbers and automatically shares PowerPoint and other relevant programs. This application could also use the TAPI integration to make the voice connection if this was being done over a separate phone line. We could also provide call setup functionality on the RCP so that the user can set up the call without everyone watching.

Laptop docking site for the SMART Board

This is the same idea as we have now where you hook up the laptop to a SMART Board and it switches the VGA signal. Unfortunately, this doesn't work very well now, and it never will because LCD projectors don't work well and we simply can't control that. So the solution is to provide some help to the user. To do this, we put a motion detector or some other electronics on the cradle so that we can detect when somebody is fiddling with it. At this point we can pop up a big screen which offers them advice on how to do it right. It would say things like "Right click on your desktop and check your display settings. Make sure the resolution is set to 800X600." We would know the right things to say because the person who set up the conference room would have told us.

We could set up the interface so that it is driven by the user much like the display settings in Windows are. You would press the test button and it would switch video signals for a few seconds and then come back to the known display. From there you could trouble shoot problems if the new video didn't look right. This wouldn't be perfection, but it would at least offer some hope of success.

SMART Meeting Software

The glue that binds all of this together is the SMART Meeting Software. It starts off with a friendly, colorful screen that automatically comes on when the first person walks into the room. Although I haven't yet figured out exactly what this interface would look like, the key would be to allow the users a few very simple and obvious choices. Choices would be things like "PowerPoint", "WhiteBoard", "Telephone", and "Video Conference".

- 6 The Meeting Software itself would record everything that happened in the meeting. This information
- 7 would be stored under the categories of Goals, Agenda, Minutes, Action Items, and Decisions.

The Agenda would be optional, but if there was one it would basically be a navigational aid. It would keep track of how long you had budgeted for a topic, how long you spent, and where you were.

Goals would be another optional item. The purpose of goals is to remind people that they shouldn't be having a meeting unless they have something that they wish to accomplish.

- 17 Meeting Minutes are mandatory, but that is OK because they are generated automatically, although the
- 18 user could help. The minutes track everything that happens in the meeting. When you are talking, your voice is recorded so that it can be played back later. You are also photographed from time to time so that people can see what you were doing when you were talking. When you are working on the computer, your screen is captured regularly so that you can later see what you were doing. All of this stuff is turned into a giant file, which you can play through in any order later. This file is automatically saved to a pre-

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Meeting Minutes are integrated with the RPC, so that the meeting scribe can supplement the minutes as appropriate. The minutes software is aware of everything that is happening, so that it can create an intelligent list of what happened in the meeting so that you don't have to play back through everything to find the part you are interested in.

Action Items can be generated at any time. You can drag action items from elsewhere, create them on the RPC, or simply write them directly on the SMART Board. If you use the address book to assign them to people, they will automatically be added to that person's to-do list using Exchange. We could even make a feature that puts a reminder into the person's calendar a few days before the item is due. If the Meeting Recorder cleans up the items, then we can get a much higher level of integration into email and exchange by producing formatted text.

Decisions can also be recorded. At any time you can go to the decision page and write down a new decision. Like action items, there are numerous ways a decision can be recorded. The purpose of recording decisions is to allow people browsing the meeting results later on to quickly see what was accomplished.

15 Without any user intervention,
16 we will record everything that happens in the meeting and generate intelligent minutes to allow users to
17 browse it easily. The information will automatically be published to a well-defined location on your Web.
18 If the meeting participants decide to become more involved, they can become much more effective by
19 designating a scribe and assigning action items, recording decisions and goals, and producing more
20 accurate minutes of what has happened

The SMART Meeting Server

The final piece of this massive puzzle is the SMART Meeting Server.

3 The SMART Meeting Server is the link between the Meeting Room and the desktop. In large corporations,
4 the biggest problem is that the Meeting Room and the Desktop exist in separate worlds. The Meeting
5 Room computers may not have access to the same network drives that the Desktop PC sees, or there may
6 be security restrictions on what can be placed on a Meeting Room computer. This means that when you
7 leave your desk to come to the meeting room, your information is left behind.

8 The SMART Meeting Server addresses this problem by providing a link between these two worlds. It does
9 so in two ways: the web, and your messaging system.

10 The Web interface is a series of Active X controls (or Java Programs) that allow you to prepare for
11 meetings or to view the meeting database. The Meeting Database is a searchable index to which all
12 meetings are automatically published. If you were in a January 5 meeting in the main boardroom, you
13 would simply go to the meeting database and find it. Security mechanisms will be in place to stop
14 unauthorized access. The viewer for the meeting database is downloaded when you visit the page, so you
15 don't have to install any software. You will be able to play back the meeting, listen to what was said, view
16 the action items, and so on. You will also be able to retrieve copies of any supplementary files (PowerPoint
17 shows for example) that were used in the meeting.

18 The messaging integration allows you to use the tools you are already familiar with: your scheduler and
19 your email. The way it works is that the meeting room is a participant in your meeting. When you want to
20 hold a meeting in the main boardroom from 2:00-4:00, you make sure the main boardroom is on the
21 invitation list. This avoids schedule conflicts. It also means that the main boardroom will be able to figure
22 out who all of the participants in the meeting are (at least those that are on the email), because it will
23 automatically be sent a copy of the invitation.

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What will make this insanely great is that the software in the board room will be smart enough to read your email and figure things out from it (provided that you follow a few simple layout rules). Just like Word can recognize when you are typing a letter, our software will be able to recognize agendas and goals simply by reading the email. The best part of this is that there are no new tools for users to learn. The training time for this is almost 0.

9 The software will also be able to communicate with the user before the meeting by sending out email. For
10 instance if it doesn't have an agenda it could email the organizer a few hours ahead of time and ask him to
11 provide one. It might also email people and ask them to attach copies of any materials they wish to present
to a reply email. At the end of the meeting, everyone can get a personal email listing the minutes, the
results of the meeting, their action items, and a hyperlink to the page on the Meeting Database where the
information can be found.